

- Docket No. 0545.024

REMARKS

Without acquiescing to the propriety of the rejections in the Office Action dated February 12, 2003, claims 1, 16 and 29 have been amended. Entry of these amendments, reconsideration of the application, and allowance of all claims pending herein is respectfully requested in view of the remarks below. Claims 1-9, 13, 14, 16, 17, 24, 25 and 28-32 are now pending and under consideration.

§ 102 Rejections:

Claims 1-6, 8, 9, 13, 14, 16, 17, 24, 25 and 28-32 stand rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Teeri (U.S. Patent No. 3,836,195).

Claim 1 of the present application recites an adjustable disc spring system which includes at least one beveled disc spring axially aligned with an adjustable spacer. The adjustable spacer is plastically compressible in a substantially axial direction relative to the at least one beveled disc spring to allow an axial adjustment to the adjustable spacer in response to a force placed on the spacer.

Teeri discloses a spring pillar assembled from Belleville disc springs aligned parallel to one another and connected by binding rings. FIGS. 4 and 6 disclose deflection of the disc springs in a manner such that the binding rings must be rigid. Specifically, the ends of the disc springs which are received in the binding rings are not deflected while the opposite ends thereof are deflected toward one another. Thus, it is evident from the position of the deflected disc springs in these figures (i.e., the disc springs appear deformed but not the binding rings) that the binding rings might be rigid. The specification of Teeri discloses that the binding rings may be made of steel plate rings and further that such binding rings may also be made from an elastic material, such as rubber or synthetic rubber. However, there is no disclosure of the binding rings being made of a plastically compressible material, as is recited in claim 1 of the present application. The plastically compressible nature of the spacers recited in claim 1 of the present application

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allows such spacers to be adjusted or preloaded. More specifically, the spacers may be plastically deformed in a predictable manner which allows them to be adjusted in fine increments to achieve a precise adjustment. For example, as depicted in Figs. 9-11 of the present application, the deflection or adjustment of such spacers in combination with various disc spring systems may be predicted based on the force applied. Such adjustment or preload of such spacers in the various disc spring systems disclosed allow such disc spring systems to be utilized in applications requiring precise adjustments and spacing of different components, for example, in a bearing assembly. However, there is no disclosure of the binding rings in Teeri being adjustable spacers or that adjustment of such binding rings by a force is desirable. In fact, the binding rings in Teeri are described as being elastic and depicted as being rigid but not as being plastically deformable. In contrast, the spacers described in the present application are intended to be plastically deformed to particular dimensions to provide a certain spacing, for example, in a bearing assembly. Thus, because an adjustable spacer which is plastically compressible to allow adjustment thereof in response to a force is not identically disclosed in Teeri, claim 1 of the present application cannot be anticipated thereby. Thus, claim 1 is believed to be allowable along with the claims depending thereon which are believed to be allowable for the reasons described and for their own additional features.

Claim 29 of the present application, as amended, recites axially aligning at least one beveled disc spring with an adjustable spacer and compressing an adjustable spacer in a substantially axial direction relative to the at least one beveled disc spring to plastically deform the spacer. There is no disclosure in Teeri of an adjustable spacer being compressed nor such a spacer being plastically deformed due to such compression. Instead, the binding rings which connect the disc springs in Teeri are disclosed as being rigid or elastic, but not plastically deformable, as recited in claim 29 and described in the present application. Thus, because the features of claim 29 are not identically disclosed by Teeri, this claim cannot be anticipated thereby. The dependent claims are not believed to be anticipated for these reasons and for their own additional features. Thus, these claims are believed to be allowable.

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§103 Rejections:

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being obvious over Terri in view of Brecht (U.S. Patent No. 1, 826,597). Because this rejection relies on the § 102 application of Terri, this claim is believed to allowable for the same reasons as claim 1 described above and for the additional feature of a beveled disc spring having an axially protruding tip.

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CONCLUSION

It is believed that the claims of the application are in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, the Examiner is invited to telephone the undersigned attorney at the telephone number provided.

Respectfully submitted,

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